# MAGIC BALLOON

## Supplies:

A balloon

A watch or clock

BE SURE AN ADULT HELPS YOU WITH ALL OF THE PROJECTS. IT WILL BE MORE FUN AND A LOT SAFER, TOO!

## Directions:

1. Rub the balloon on your sweater. Stick it to a wall and time how long it stays before falling down.

2. Repeat step (1) in the bathroom, just after someone has taken a hot shower.

## Merlin's Secret:

The balloon will stick longer when the air is very dry inside, like during the winter. The balloon won't last as long during humid, summer months.

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# BIG BUBBLE

## Supplies:

1 cup of distilled water (240 mL)

2 tablespoons of liquid dish soap (30 mL)

1 tablespoon of glycerin (15 mL) (ask an adult)

1 pair of inexpensive children's gloves (any material)

1 straw

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## Directions:

1. Put on your gloves.
2. Pour liquids into a bowl.
3. Put straw in the bowl.
4. Gently blow a bubble about the size of a large orange.
5. Bounce the bubble from glove to glove.

## Merlin's Secret:

The distilled water does not contain high levels of iron or minerals. The glycerin is the secret ingredient that gives the bubble its extra strength. The cleaner the bubble, the more it will keep bouncing!

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# MILK OF MANY COLORS

## Supplies:

Milk (whole or 2%)

A dinner plate

Food coloring (red, yellow, green, blue)

Liquid dish-washing soap

Cotton swabs

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## Directions:

1. Pour enough milk on the dinner plate to completely cover the bottom of the plate.
2. Add one drop of each of the four colors of food coloring to the milk: Red, blue, yellow and green. Do your best to keep the drops close together in the middle of the plate of milk.
3. Use a clean cotton swab and gently touch the middle of the milk with the tip of the cotton swab. Do not swirl!
4. Place a drop of liquid dish soap on the tip of the cotton swab. Now, place the soapy end of the cotton swab back in the middle of the milk and hold it there for 10 to 15 seconds.
5. Add more drops of soap to the tip of the cotton swab and try it again. See what happens if you put the tip of the cotton in different places on the plate of milk.

## Merlin's Secret:

Milk is mostly water but it also contains vitamins, proteins and small bits of fat. The fats and proteins react to the changes in the solution and begin to move.

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# MAGIC SODA CAN

## Supplies:

One empty soda can

One blown-up balloon

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## Directions:

1. Place the can on its side on a flat table.
2. Rub the balloon back and forth on your sweater really fast.
3. Hold the balloon an inch from the can.
4. The can will start to roll, even though you're not touching it!
5. Now, move the can and watch the balloon follow!
6. You and your friends can have a fun soda can race!

## Merlin's Secret:

When you rub a balloon on your sweater, it loads up with "electrons." The electrons on the balloon attract the "protons" in a soda can. When they are attracted to each other, the can moves.

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# MAGIC CEREAL SWING

## Supplies:

A hard plastic comb

Thread

Dry cereal

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## Directions:

1. Tie a piece of the cereal to one end of a long piece of thread.
2. Tape the other end of the thread to the edge of a table so it doesn't touch anything else.
3. Wash the comb and dry it well.
4. Run the comb through long, dry hair several times.
5. Slowly bring the comb near the cereal. The cereal will swing to touch the comb. Watch until the cereal backs away by itself.
6. Try to touch the comb to the cereal again. The cereal will move away as the comb gets closer.

## Merlin's Secret:

Running the comb through your hair moved electrons from your hair to the comb. The comb then had static "charge." The "uncharged" cereal was attracted to charge. When they touched, the electrons slowly moved from the comb to the cereal.

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# MAGIC VOLCANO

## Supplies:

- An empty 16.9 oz. plastic bottle
- 1/2 cup 20-volume hydrogen peroxide (20-volume is 6% solution, so get help from an adult!)
- Liquid dishwashing soap
- 3-4 drops of food coloring
- 1 teaspoon yeast dissolved in 2 tablespoons very warm water
- Funnel
- Foil cake pan with 2-inch sides
- Lab goggles
- Lab smock

BE SURE AN ADULT HELPS YOU WITH ALL OF THE PROJECTS. IT WILL BE MORE FUN AND A LOT SAFER, TOO!

## Directions:

1. Stand the plastic bottle in the middle of the cake pan. Put the funnel in the bottle's opening.
2. Add 3 or 4 drops of food coloring to the peroxide.
3. Pour the peroxide and food coloring mixture through the funnel into the bottle.
4. Pour the liquid detergent into the funnel.
5. Pour the yeast mixture into the funnel and quickly remove the funnel.
6. Watch and be amazed as the volcano comes to life!

## Merlin's Secret:

The combined ingredients create a foam that comes up out of the bottle and rests in the pan. After about a minute, the foam flows out in a moving stream that looks like toothpaste coming out of a tube.

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